

**ABSTRACT OF THE DISCLOSURE**

What is described here is a method and a temperature management and reaction chamber system for the production of nitrogenous semiconductor crystal materials of the form  $A_xB_yC_zN_vM_w$ , wherein A, B, C represent elements of group II or III, N represents nitrogen, M represents an element of group V or VI, and X, Y, Z, V, W represent the mol fraction of each element in this compound, operating on the basis of gas phase compositions and gas phase successions. The invention excels itself by the provisions that for the production of the semiconductor crystal materials the production process is controlled by the precise temperature control of defined positions in the reaction chamber system under predetermined conditions.

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